

# BERPIKIR PERANCANGAN

## DESIGN THINKING

### WEEK 3

DESIGN PROCESS

DESIGN MAP

DO WE REALLY NEED DESIGN  
MAP?

# BERPIKIR PERANCANGAN

*DESIGN THINKING*

**Apakah yang dimaksud  
dengan ‘proses disain’?**

# BERPIKIR PERANCANGAN

## CLASS WORKSHOP

- ▶ Presentasikan proses perancangan para disainer yang telah dilakukan!
- ▶ Gambarkan “peta disain” proses itu! Bagaimana dengan
- ▶ Beri gambaran proses perancangan yang sudah pernah anda lakukan dan bandingkan dengan peta disain proses itu!
- ▶ Apakah proses disain sama dengan gambaran peta disain?

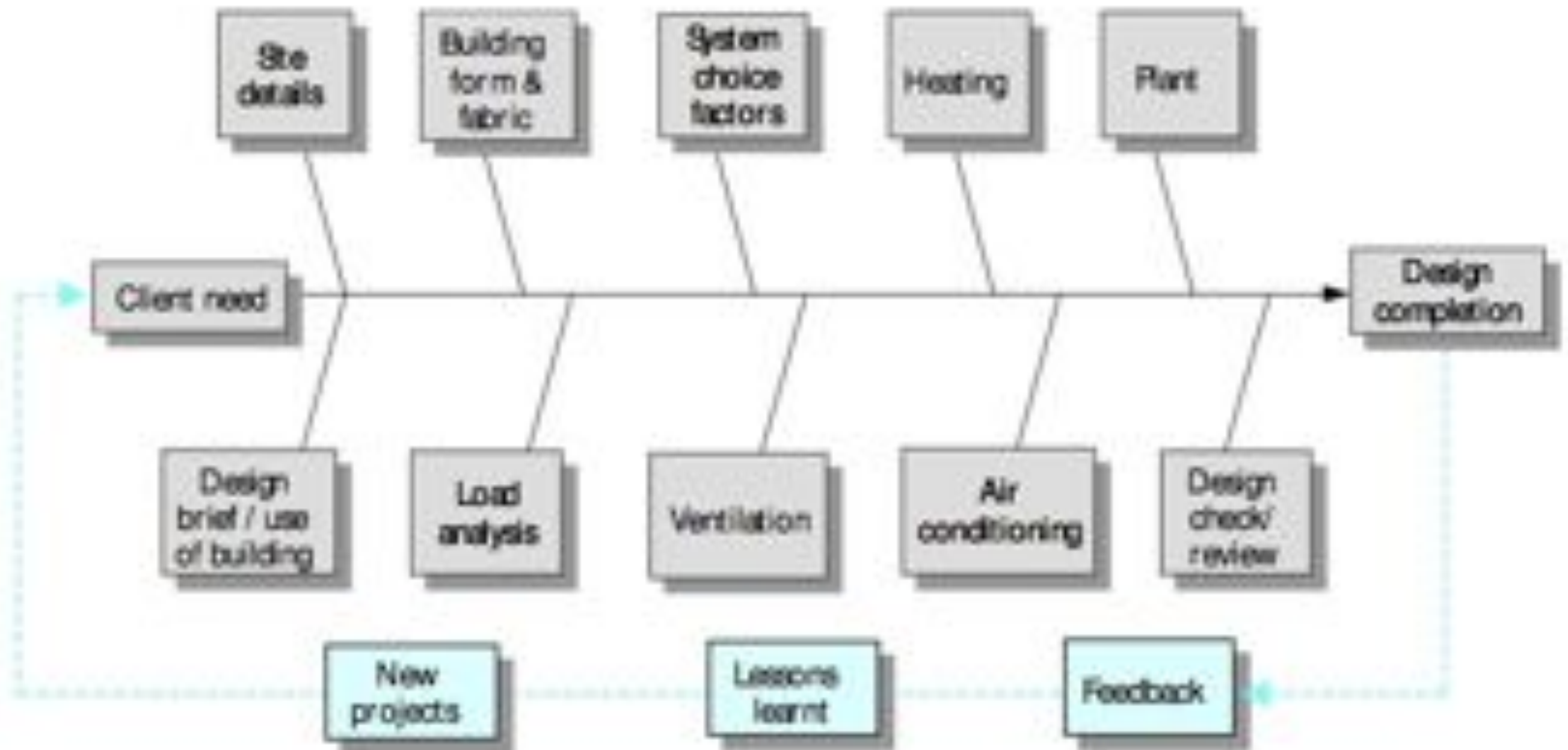
# BERPIKIR PERANCANGAN

DESIGN THINKING

**Apakah yang dimaksud  
dengan ‘peta proses disain’?**

# DESIGN PROCESS

## DESIGN PROCESS AND DESIGN MAP



<http://www.hku.hk/bse/interdisciplinary/bs-designprocess.pdf>

# DESIGN PROCESS

## DESIGN PROCESS AND DESIGN MAP

BAA Project Process (1995)	Inception		Feasibility		Concept design		Co-ordinated design		Production information
Salford Process Protocol (1998)	Demonstrate the need	Conception of need	Outline feasibility	Substantive feasibility & outline financial authority	Outline conceptual design		Full conceptual design	Co-ordinated design, procurement & full financial authority	Production information
RIBA Plan of Work (1969)	Inception		Feasibility		Outline proposals		Scheme design	Detail design	Production information
MOD 'Working Document' (1997)	Inception		Definition & qualification		Concept design				Detail design
CIRIA 113 (1995)			Feasibility and briefing		Scheme design				Production information
BS: 7000 (1989)			Feasibility		Concept design		Embodiment design	Detail design	Design for manufacture
Hubka (1982)			Elaboration of assigned problem		Conceptual design		Laying out		Elaboration
Pahl & Beitz (1988)			Planning and Clarification of the task		Conceptual design		Embodiment design	Detail design	
VDI 2222 (1973)			Planning		Conceptual design		Embodiment design	Detail design	
French (1971)			Analysis of the problem		Concept design		Embodiment of schemes	Detailing	



# DESIGN PROCESS

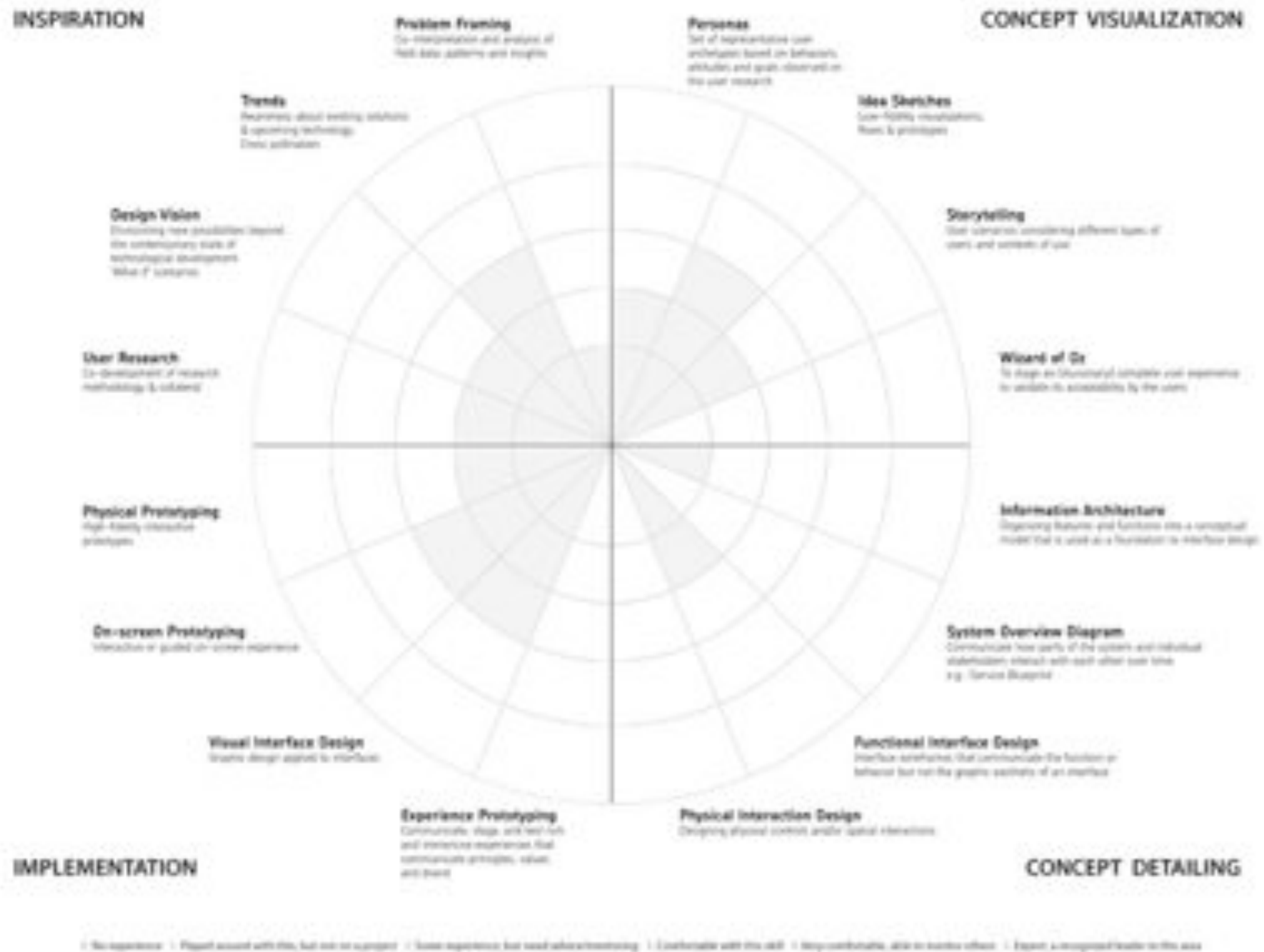
## DESIGN PROCESS AND DESIGN MAP

INTERNATIONAL CONFERENCE ON ENGINEERING DESIGN ICED 99  
MUNICH, AUGUST 24-26, 1999  
MAPPING THE EARLY STAGES OF THE DESIGN PROCESS - A COMPARISON  
BETWEEN ENGINEERING AND CONSTRUCTION  
Sebastian Macmillan, John Steele, Simon Austin, Robin Spence, Paul Kirby  
available at [http://www.eclipse-research.co.uk/Conference%20papers/MDP\\_ICED%2099.pdf](http://www.eclipse-research.co.uk/Conference%20papers/MDP_ICED%2099.pdf)

BAA Project Process (1995)											Concept design studies			
Salford Process Protocol (1998)	Prepare outline concept designs													
RIBA Plan of Work (1969)	Outline proposals													
MOD 'Working Documents' (1997)		Specify functional needs				Generate and prepare design options				Select design options for development	Develop and cost options			
Markus and Mauer (1978)			Analysis					Synthesis			Evaluation			
Hubka (1982)			Establish Function Structures					Establish Concept						
			Establish function structure	Establish technical process	Apply technical systems and establish boundaries	Establish groupings of functions	Establish functional structure and represent	Establish inputs and modes of action	Establish classes of function carriers	Combine function carriers and examine relationships	Establish basic arrangement			
Pahl & Beitz (1988)		Identify essential problems	Establish function structures				Search for solution principles		Combine solution principles	Select suitable combinations	Firm into concept variants	Evaluate against technical and economic criteria		
Cross (1988)		Clarifying objectives	Establishing functions	Setting requirements	Determining characteristics		Generating alternatives				Evaluating alternatives	Improving details		
Jones (1992)								Divergence		Transformation	Convergence			
			Design situation explored	Problem structure perceived and transformed		Boundaries located, sub-solutions described and conflicts identified			Sub-solutions combined into alternative designs		Alternative designs evaluated and final design selected			
Preliminary research model	Specify the need	Assess the requirements	Identify essential problems	Develop the requirements		Set key requirements	Determine project characteristics		Search for solutions	Transform & combine solutions	Select suitable combinations	Firm into concept variants	Evaluate and choose of alternatives	Improve details & cost options

# DESIGN PROCESS

## DESIGN PROCESS AND DESIGN MAP



<http://www.localhiddenvariable.com/ciid/interaction-design-process-diagram/>



# DESIGN PROCESS

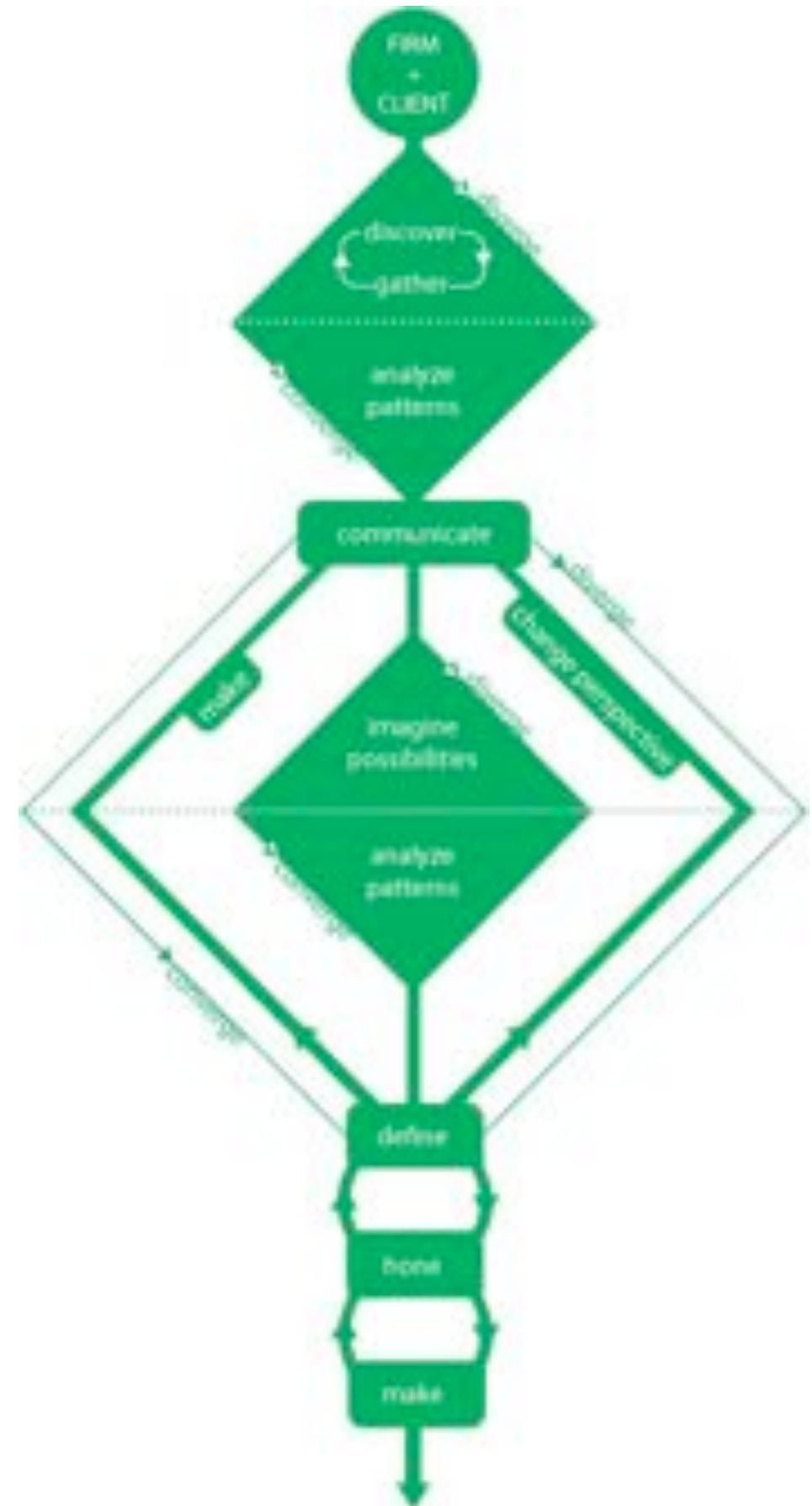
## DESIGN PROCESS AND DESIGN MAP



<http://www.sidoruk.com/blog/index.php?entry=entry060503-180428>

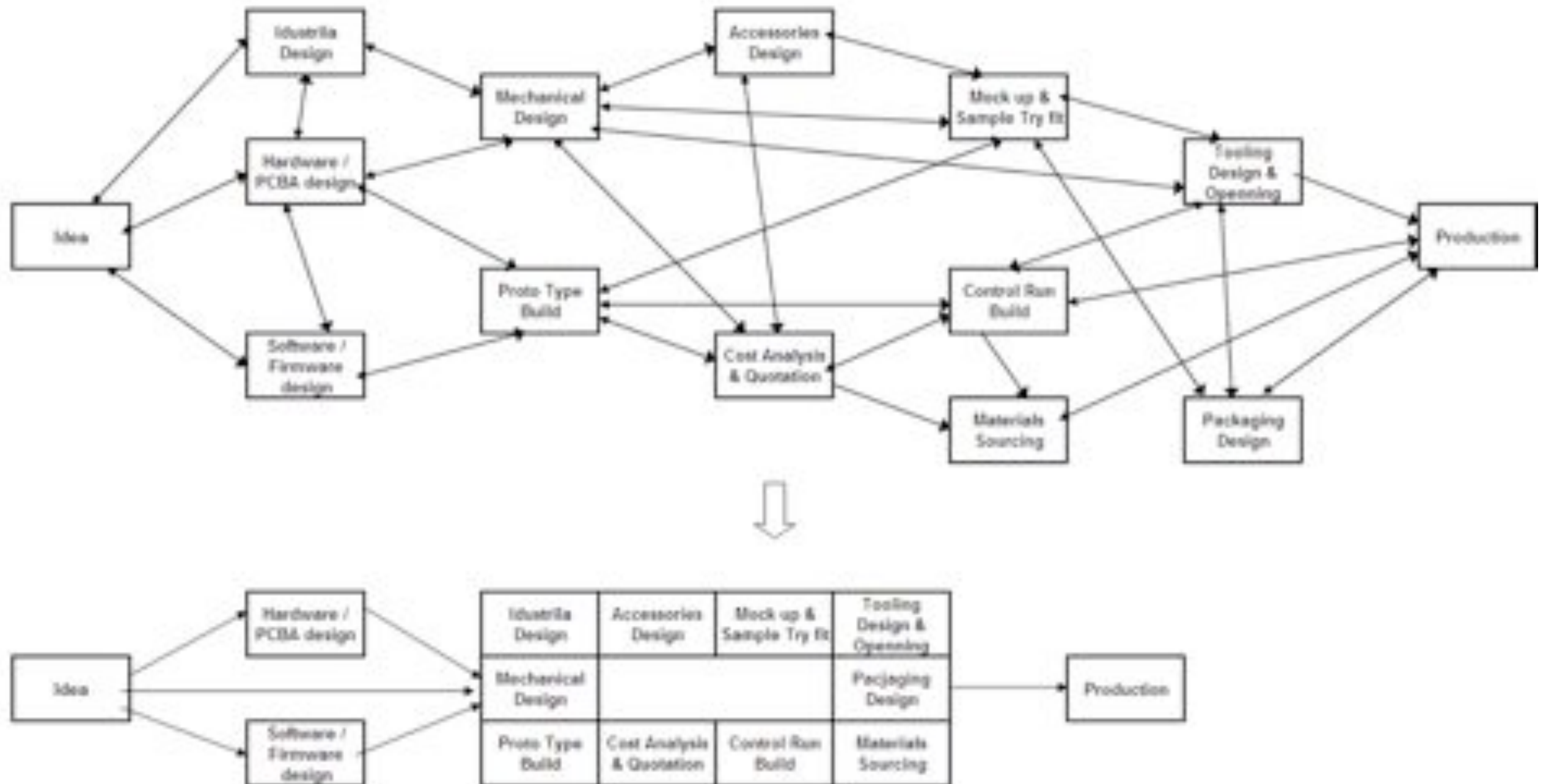
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## DESIGN PROCESS AND DESIGN MAP



# DESIGN PROCESS

## DESIGN PROCESS AND DESIGN MAP

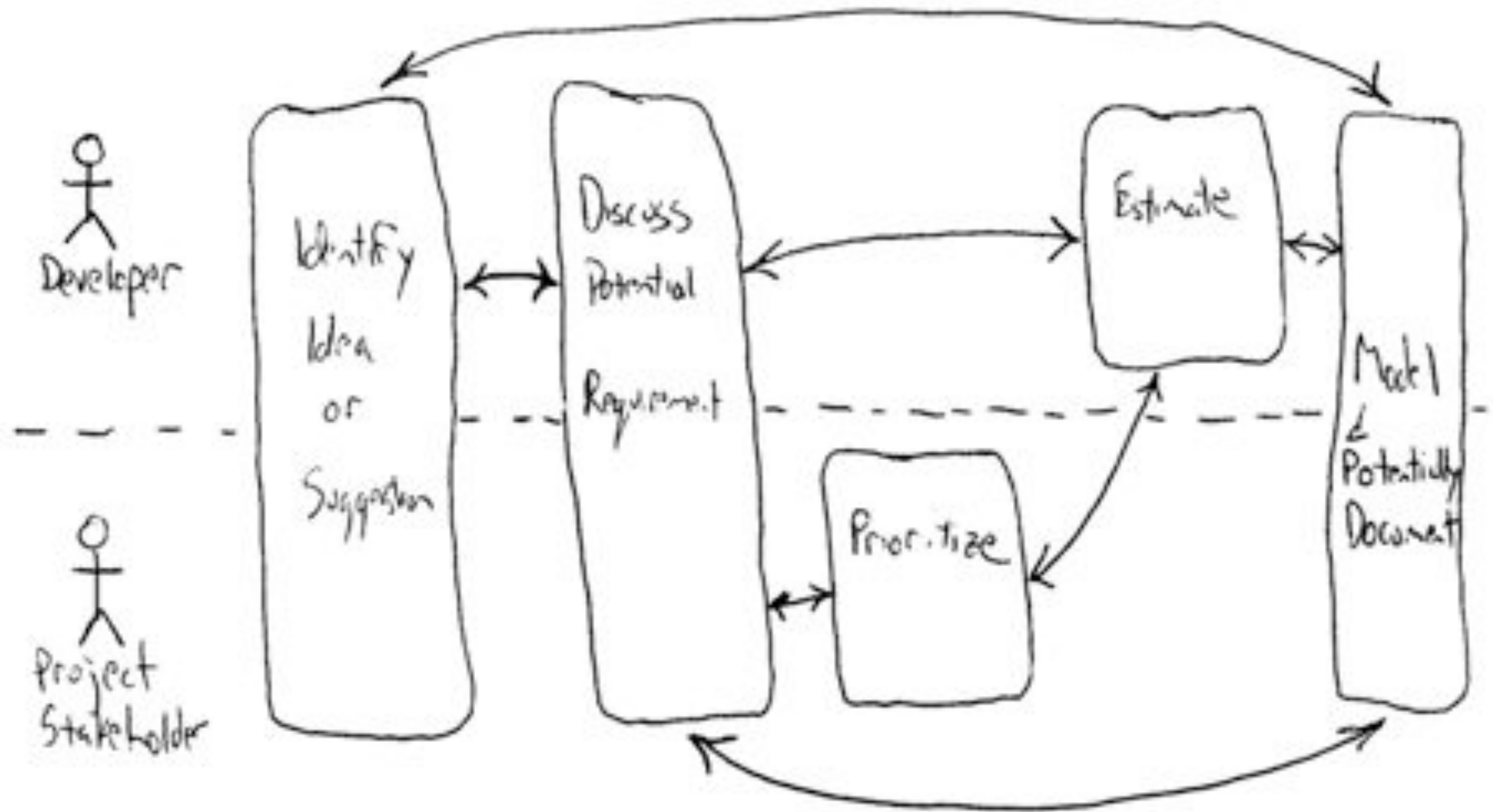


[http://www.xostudy.com/xos\\_Process\\_Diagram](http://www.xostudy.com/xos_Process_Diagram).



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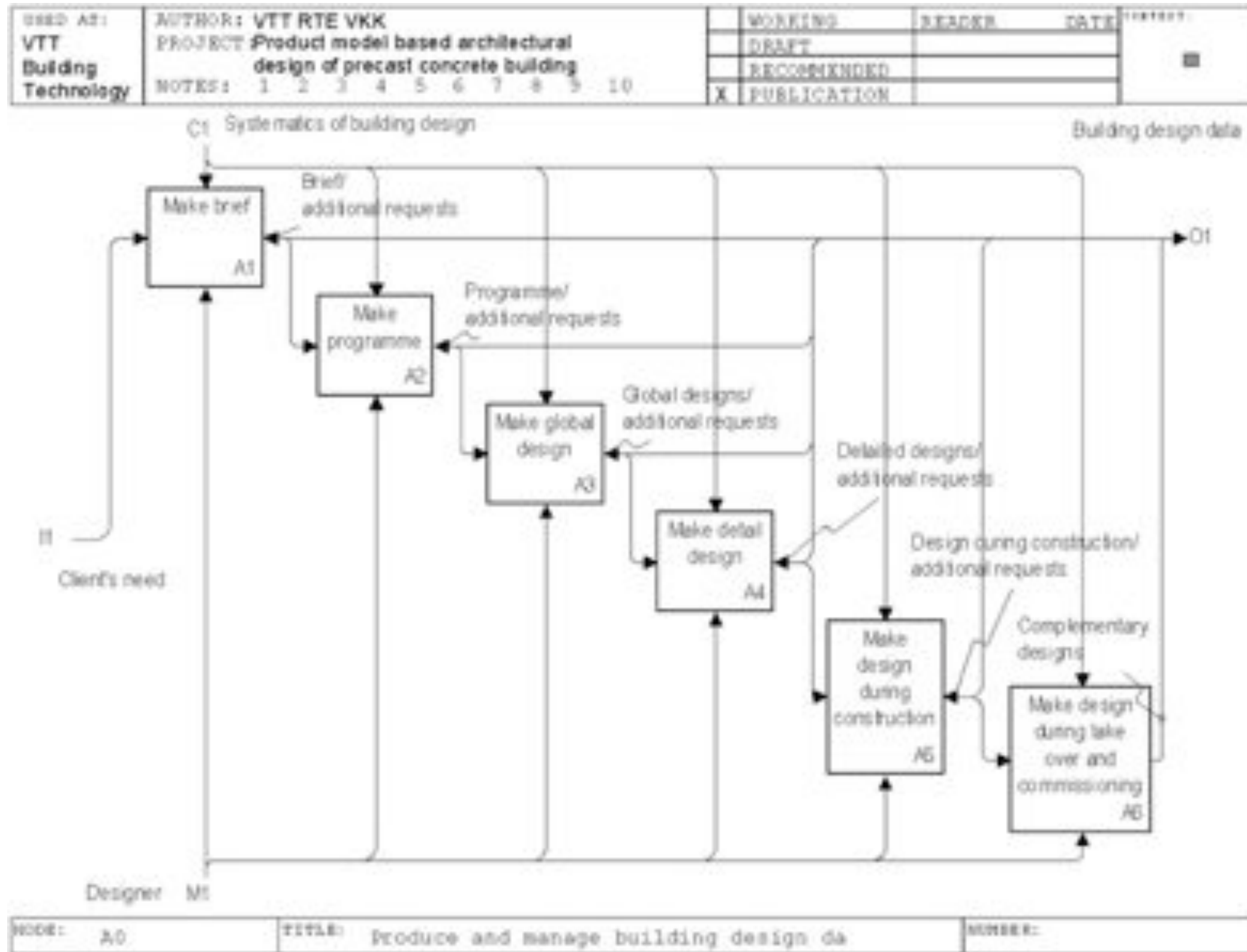
## DESIGN PROCESS AND DESIGN MAP



<http://www.uml.org.cn/softwareprocess/200902193.asp>

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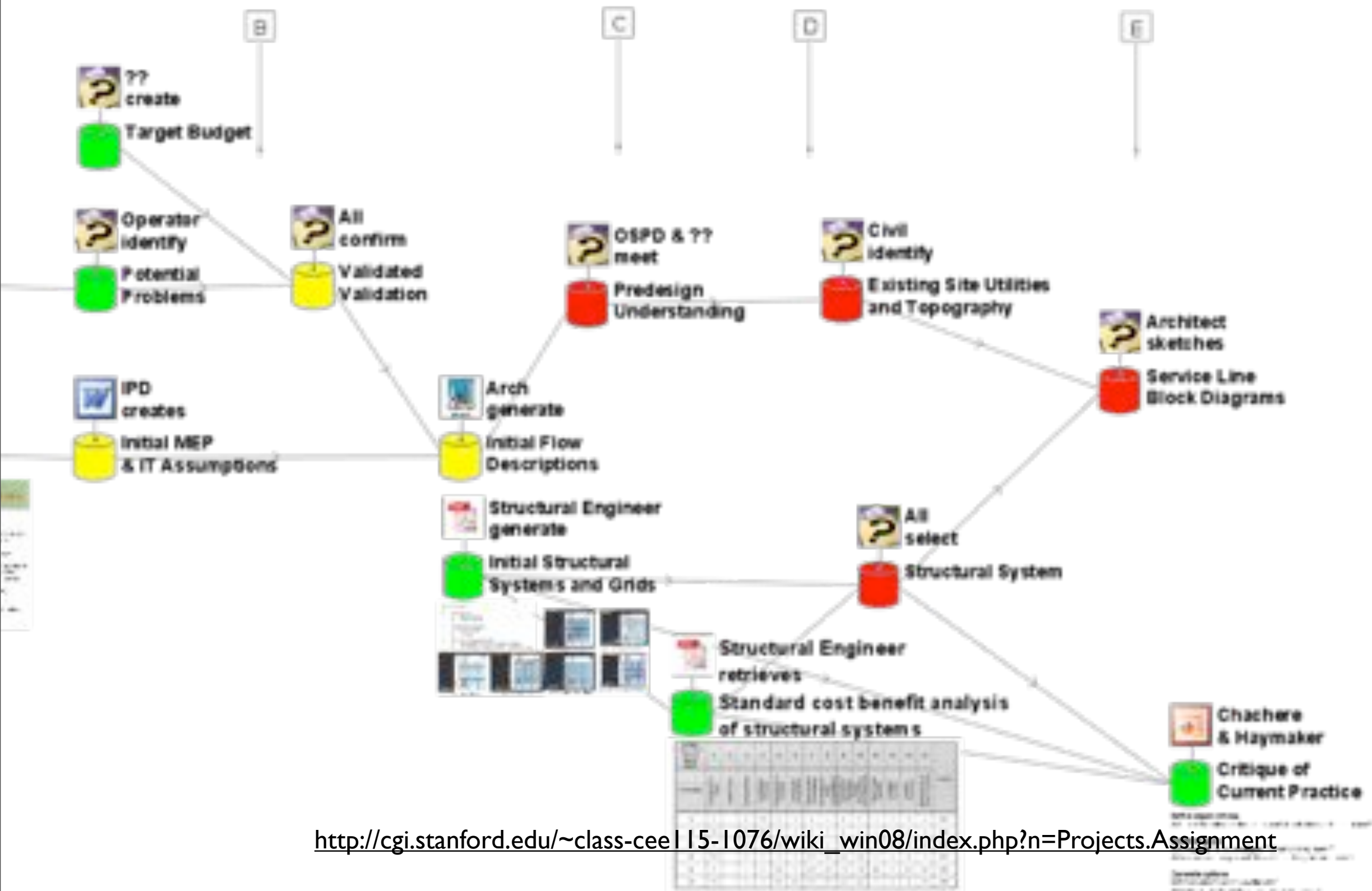
## DESIGN PROCESS AND DESIGN MAP





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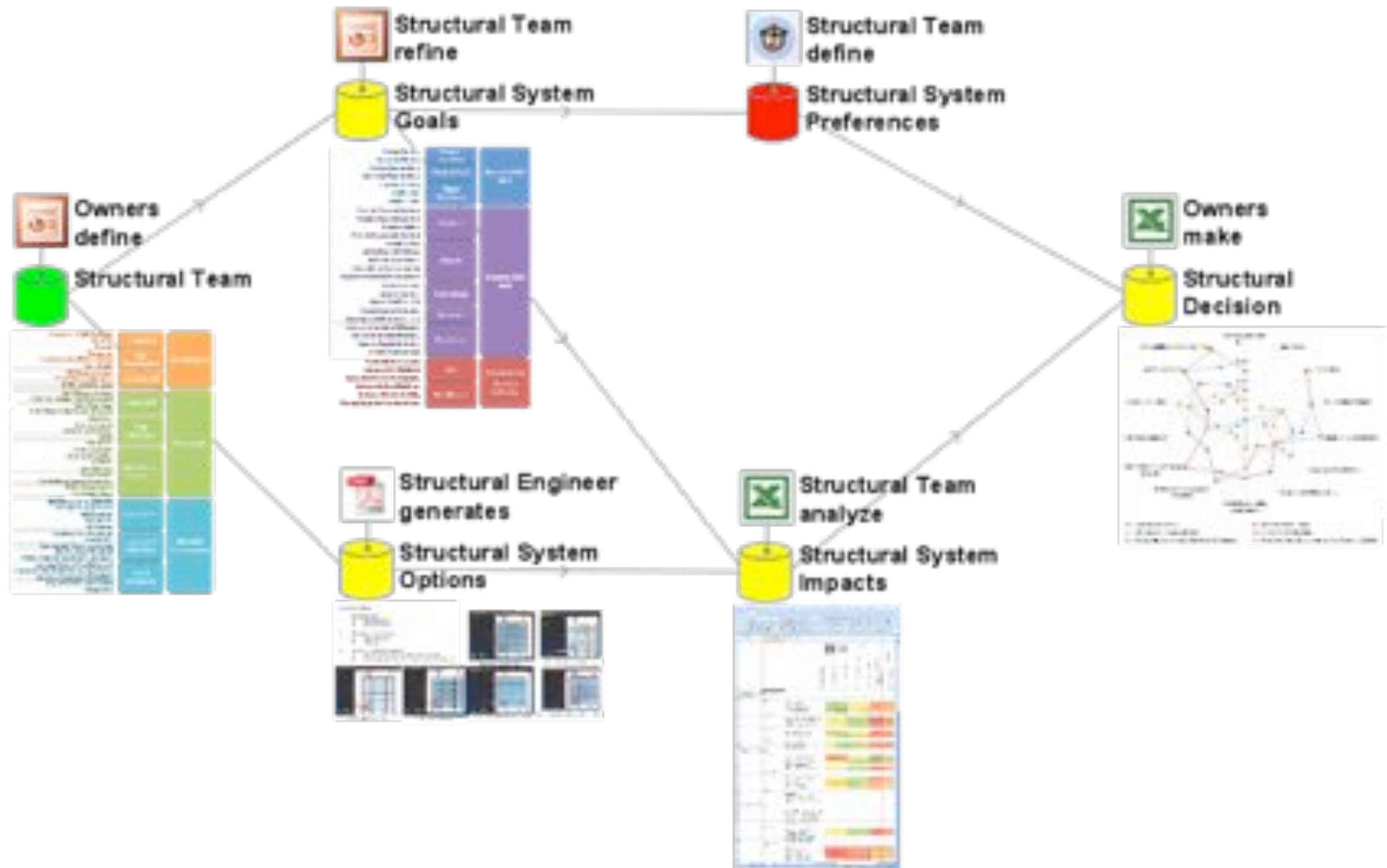
## DESIGN PROCESS AND DESIGN MAP



[http://cgi.stanford.edu/~class-cee115-1076/wiki\\_win08/index.php?n=Projects.Assignment](http://cgi.stanford.edu/~class-cee115-1076/wiki_win08/index.php?n=Projects.Assignment)

# DESIGN PROCESS

## DESIGN PROCESS AND DESIGN MAP



# BERPIKIR PERANCANGAN

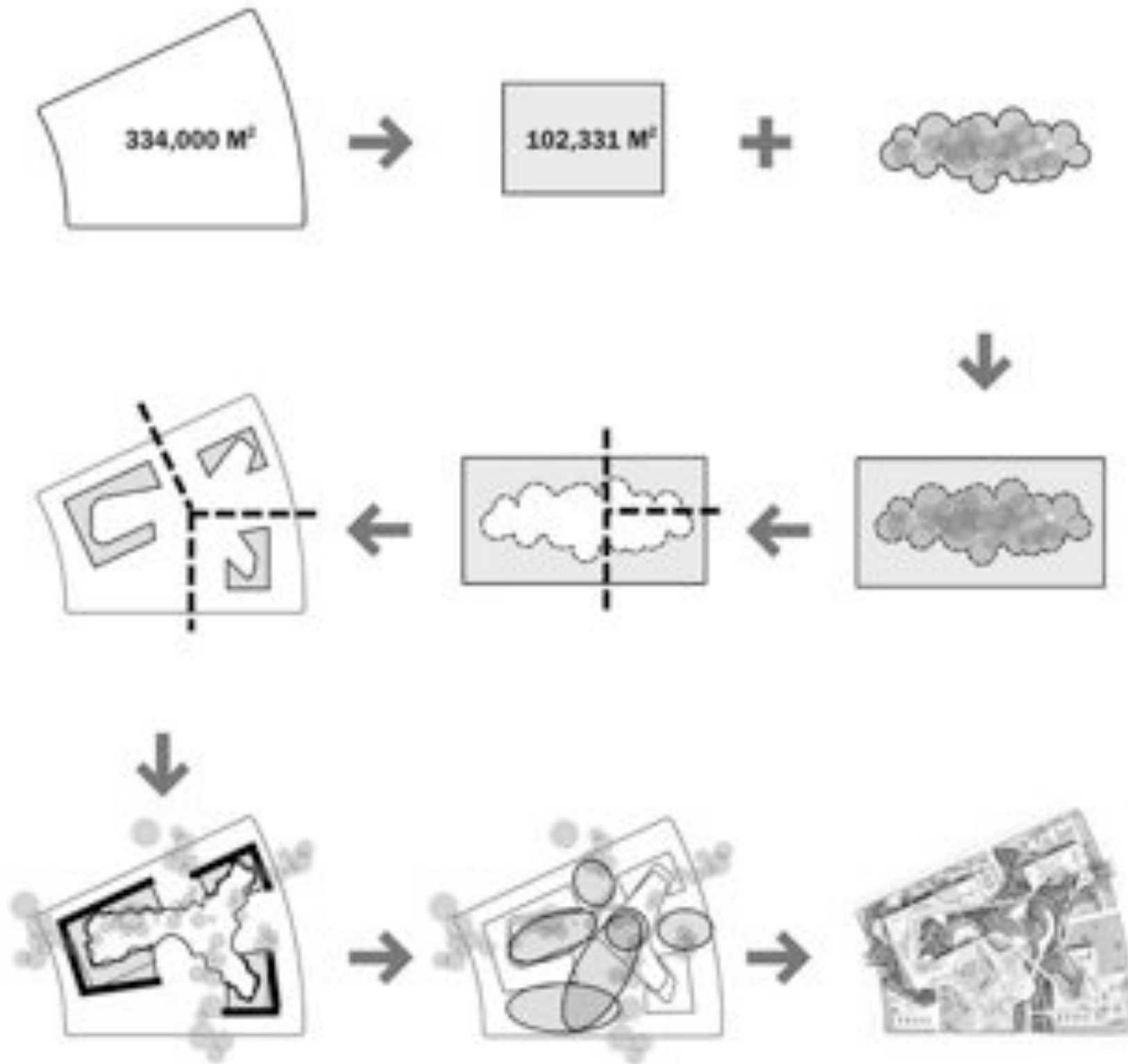
*DESIGN THINKING*

**Benarkah kita memerlukan  
‘peta proses disain?’**

# DESIGN PROCESS

<http://www.haeahn.co.kr/>

<http://www.h-associates.net/>



[http://www.bustler.net/index.php/article/chung-nam\\_government\\_complex/](http://www.bustler.net/index.php/article/chung-nam_government_complex/)



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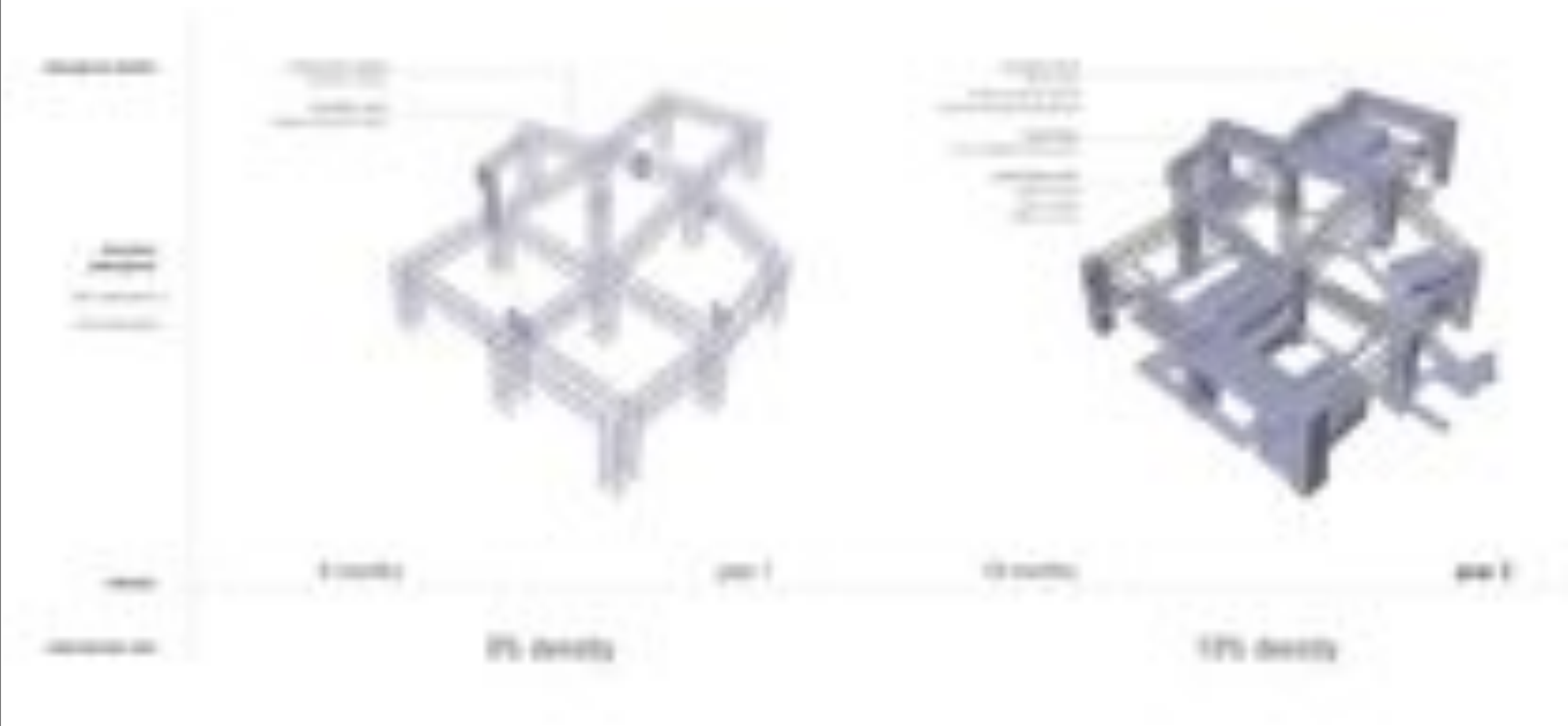
<http://www.h-associates.net/>



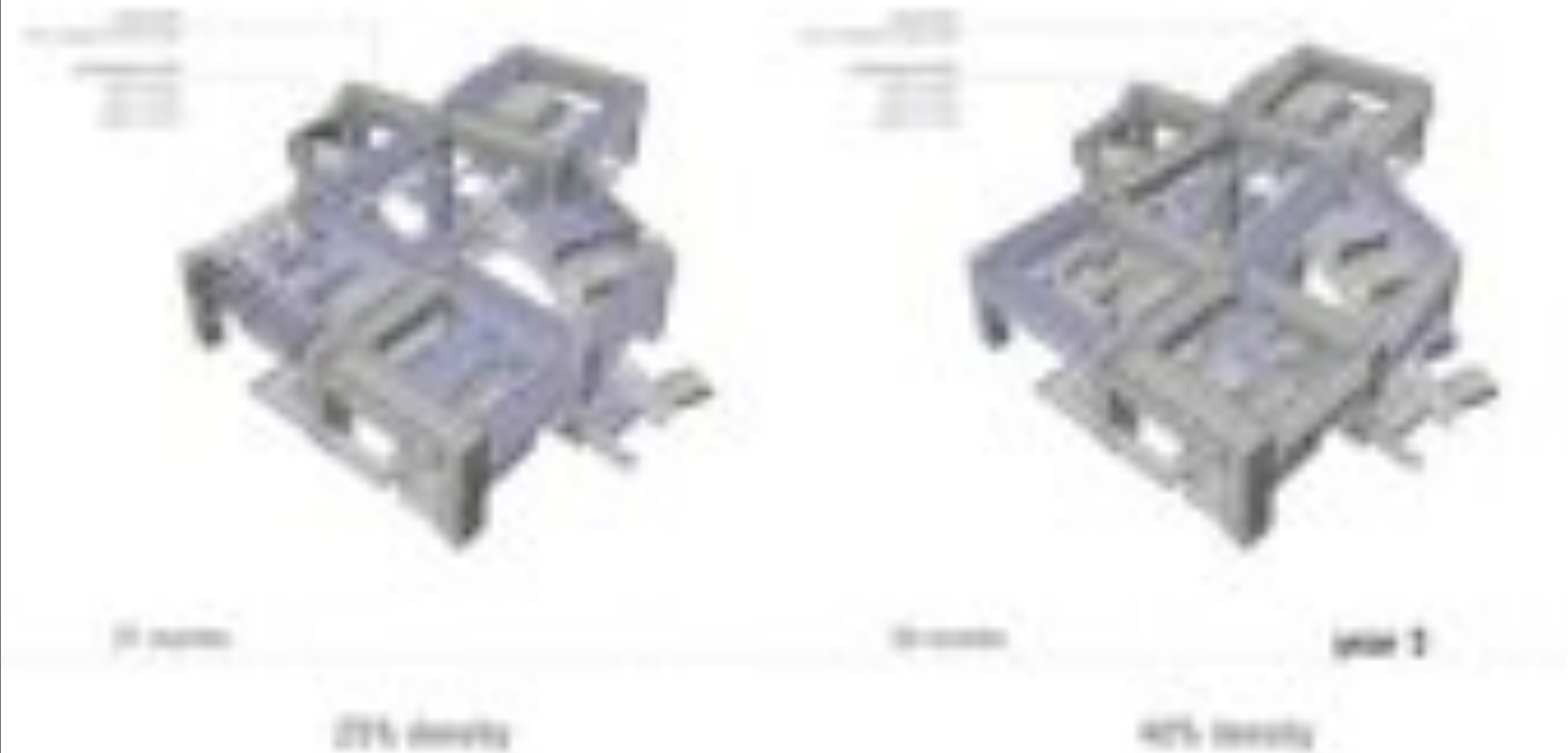
[http://www.bustler.net/index.php/article/chung-nam\\_government\\_complex/](http://www.bustler.net/index.php/article/chung-nam_government_complex/)



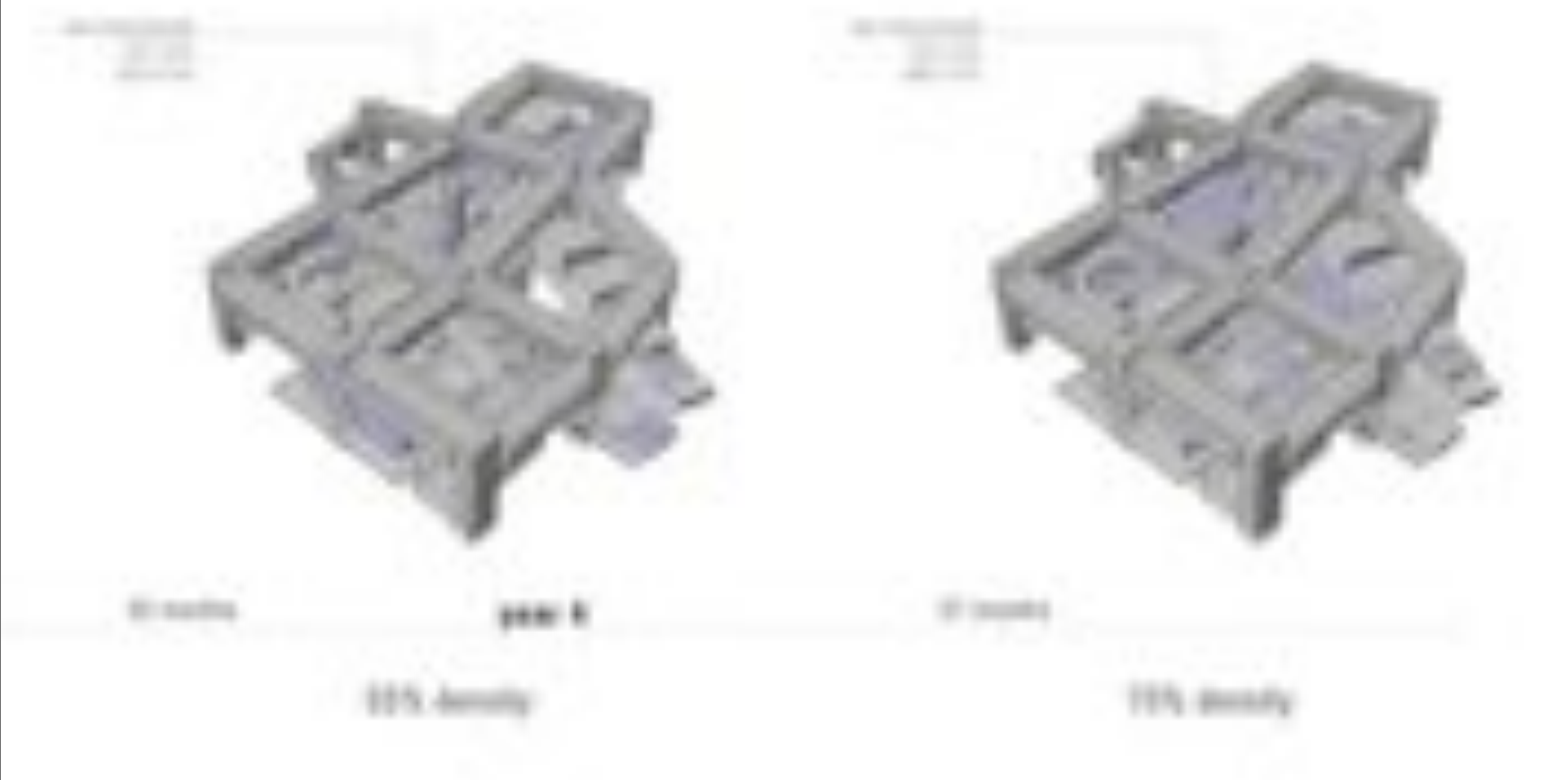
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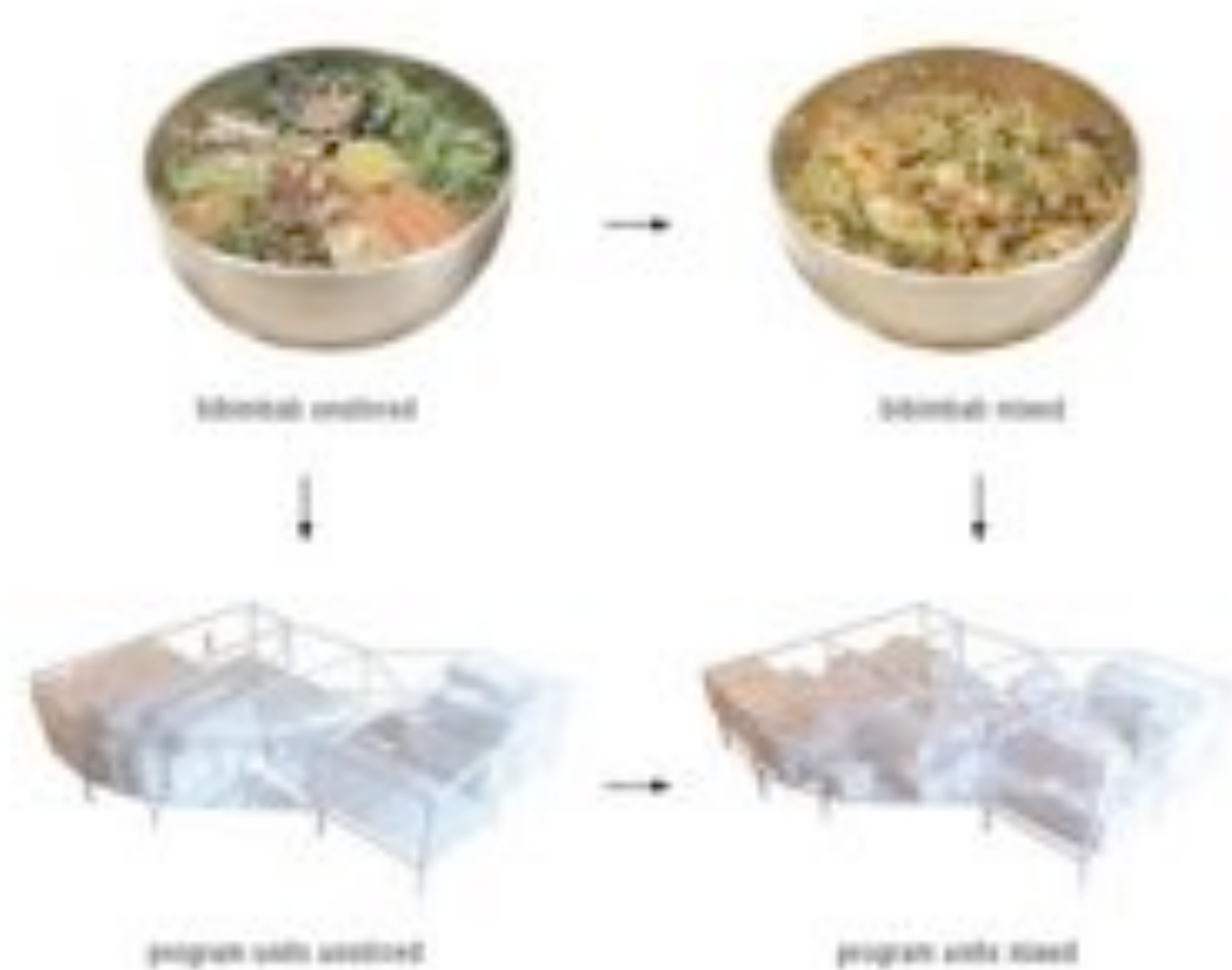


# DESIGN PROCESS



<http://www.runebadone.com/>

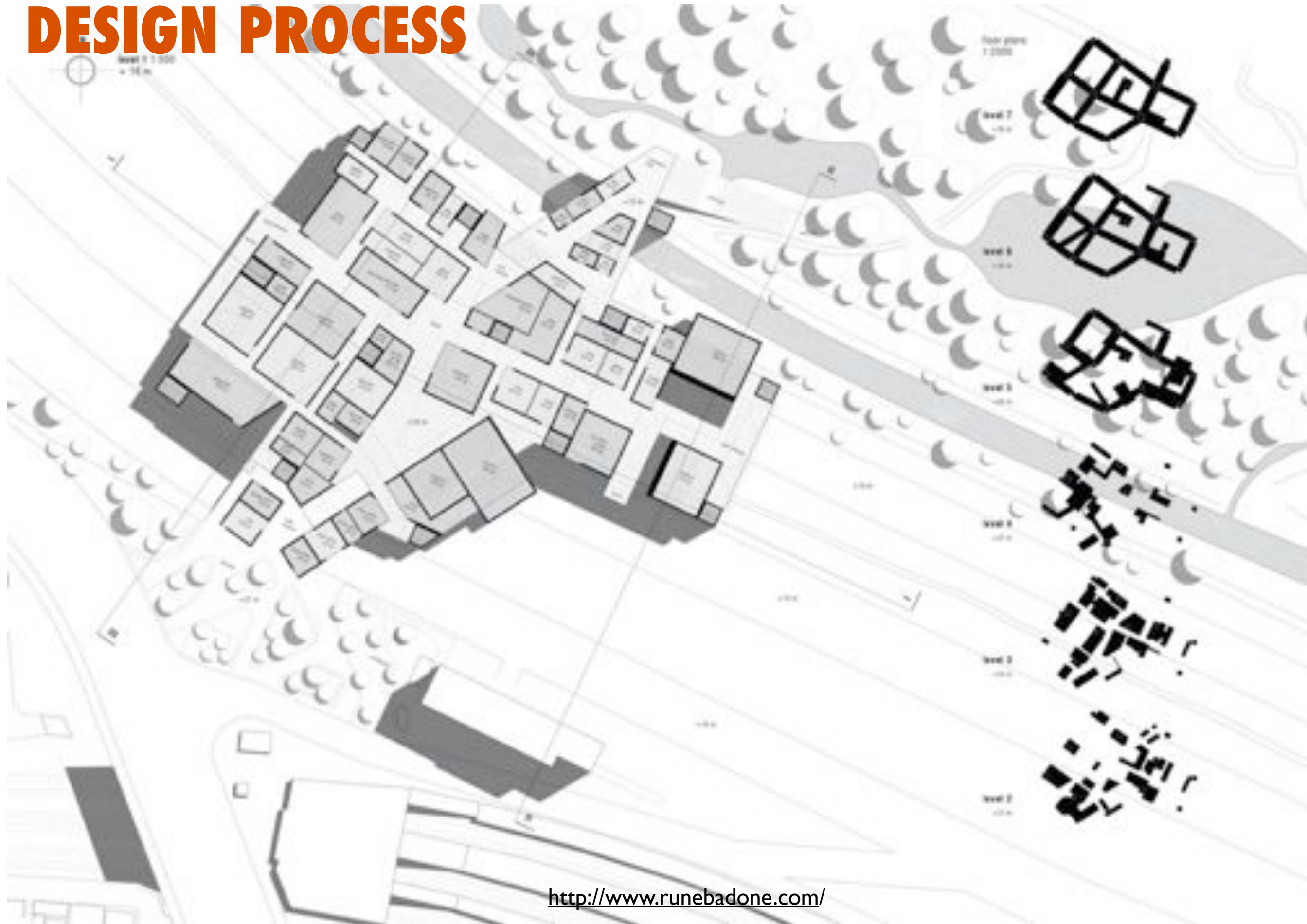
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<http://www.runebadone.com/>



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# RIBA STAGES OF WORK

- Work Stage A: Inception
- Work Stage B: Feasibility
- Work Stage C: Outline Proposals
- Work Stage D: Scheme Design
- Work Stage E: Detail Design
- Work Stage F & G: Prepare production information & bills of quantities
- Work Stage H & J: Tender Action & Project Planning
- Work Stage K: Operations on site: report work
- Work Stage L: Operations on site: record dwg

# WORK STAGE A: INCEPTION

- develop the brief in consultation with the client (yourself)
- report feasibility, including budget
- give advice on how to proceed
- visit the site and give initial appraisal
- advice on the need for other consultants and the scope of their services
- advise on the need for any specialist work.

# **WORK STAGE B: FEASIBILITY**

- Carry out any studies which may be needed to establish feasibility
- review alternative design and construction approaches and cost implications
- advise on statutory approvals needed, including health & safety
- outline a timetable for the project.

# WORK STAGE C: OUTLINE PROPOSALS

- prepare outline (sketch) proposals for preliminary approval.



# WORK STAGE D: SCHEME DESIGN

- develop a scheme design following discussions around stage C
- liaise with any other consultants and advise where their work affects programme & budget
- make a cost estimate
- enable agreements over spatial arrangement, materials and appearance
- prepare and submit a planning application (note no guarantees can be given that this can be obtained).

# WORK STAGE E: DETAIL DESIGN

- finalise detail design including co-ordination with other consultants and suppliers and integration of materials & sub-contracted work.
- cost checks where appropriate
- advise where appropriate on the CDM regulations
- prepare and submit Building Regulations Application and any other statutory requirements
- negotiate as necessary on the latter.

# **WORK STAGE F & G: PREPARE PRODUCTION INFORMATION & BILLS OF QUANTITIES**

- Drawings, schedules & specification, provide information to the Quantity Surveyor (if used) for bills of quantities.
- complete information to enable contractors to tender.

# WORK STAGE H & J: TENDER ACTION & PROJECT PLANNING

- Advise on a list of tenderers
- issue tender documents to agreed list of contractors
- receive tenders (with client presence if required), advise on results and contractor appointment
- OR arrange a price to be negotiated with one contractor.
- prepare the building contract and arrange signatures.

# WORK STAGE K: OPERATIONS ON SITE

- Administer the terms of the building contract during work on site
- visit the site at intervals to inspect the progress and quality of the work
- make periodic financial reports to the client including any cost variations .



# WORK STAGE L: OPERATIONS ON SITE

- Administer the terms of the contract related to completion of the work
- give general guidance on maintenance
- provide record drawings as required.

# WORK STAGE L: OPERATIONS ON SITE

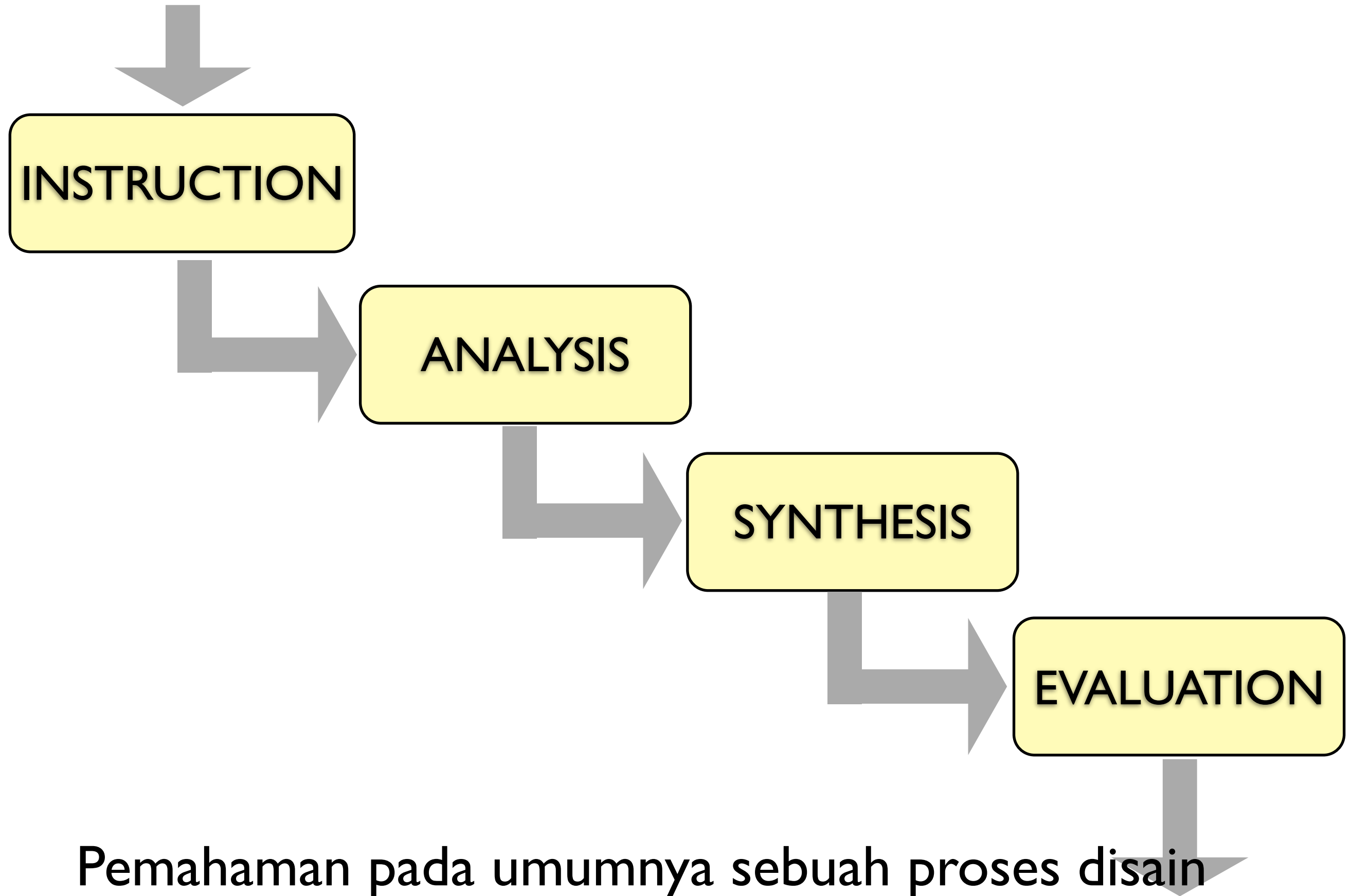
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*DESIGN THINKING*

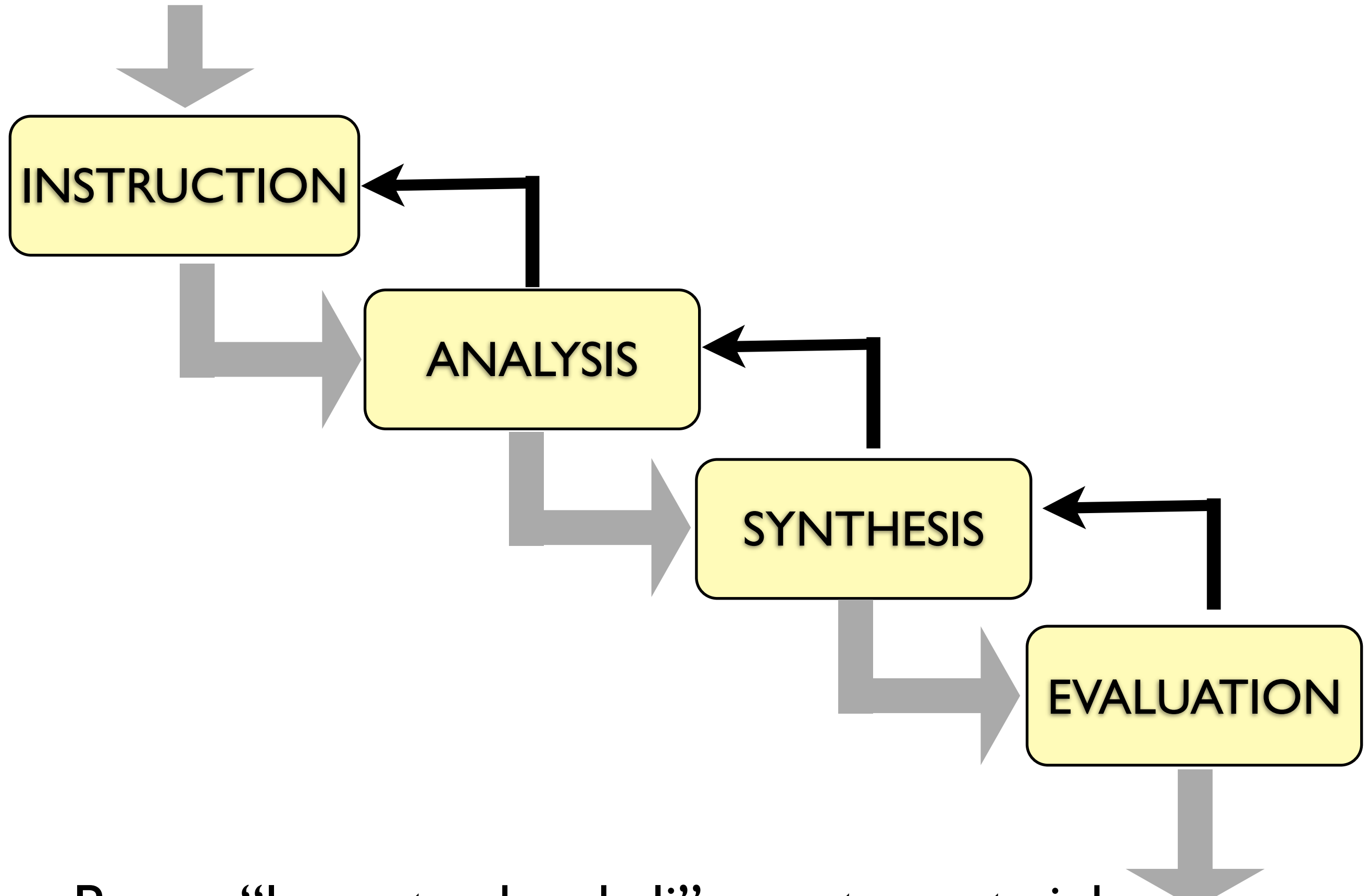
## Epilog

# PROSES DISAIN



Pemahaman pada umumnya sebuah proses disain

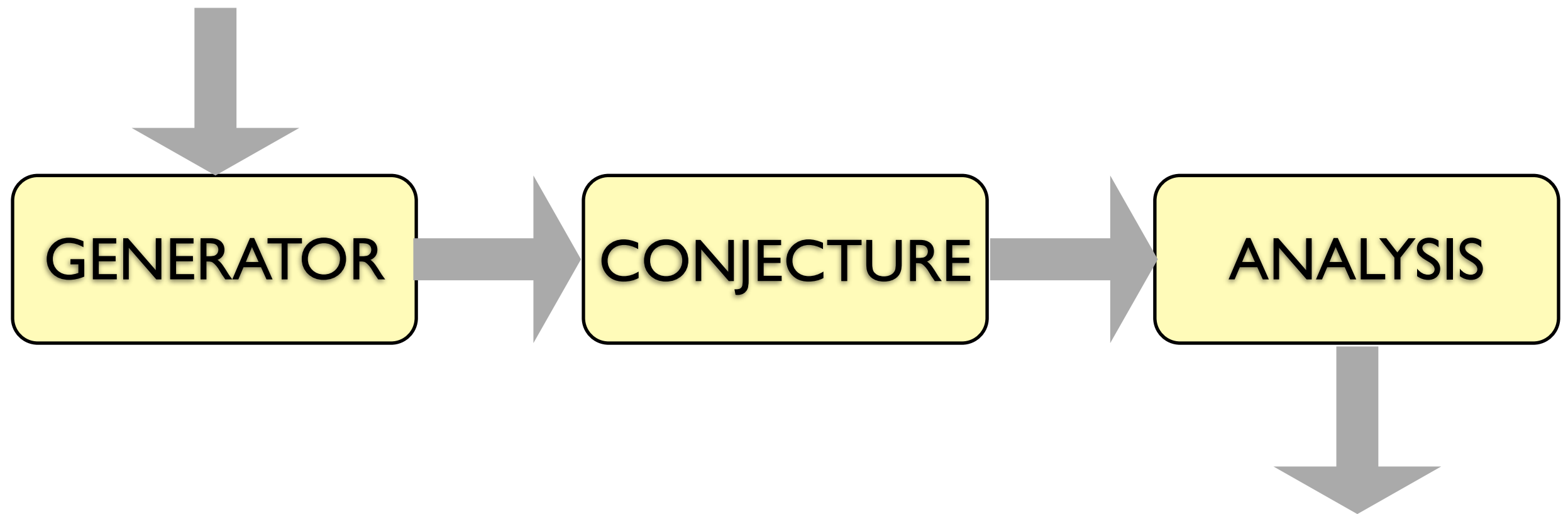
# PROSES DISAIN



Proses “lompatan kembali” yang ternyata inheren



# PROSES DISAIN



Peta versi Darke, 1978

# **BERPIKIR PERANCANGAN**

*DESIGN THINKING*

**Apa yang dimaksud dengan  
masalah disain?**

**Apa hubungannya dengan  
proses disain?**

# DESIGN PROCESS

*DESIGN PROCESS AND DESIGN MAP*

Minggu depan:  
download XMind!

# REFERENSI UTAMA

## REFERENCE

Lawson, B. *Bagaimana Cara Berpikir Disainer*, terjemahan dari *How Designer Think*, The Architectural Ltd. 1980, Yogyakarta, Jalasutra, 2007